



**GUANAJIBO RIVER SURFACE WATER
AND SEDIMENT SAMPLING RESULTS
HEWLETT-PACKARD
VOLUNTARY REMEDIAL ACTIONS
SAN GERMAN, PUERTO RICO**

PREPARED FOR:
Hewlett-Packard Corporation
Houston, Texas

PREPARED BY:
GZA GeoEnvironmental, Inc.
Manchester, New Hampshire

June 2004
File No. 20876.62

June 9, 2004
File No. 20876.62



Mr. Manuel Vargas
Puerto Rico Environmental Quality Board
431 Ponce de Leon Avenue, 11th Floor
Hato Rey, Puerto Rico 00917

Re: Guanajibo River Surface Water and Sediment Sampling Results
Hewlett-Packard Voluntary Remediation Project
San German, Puerto Rico

Dear Mr. Vargas:

380 Harvey Road
Manchester
New Hampshire
03103-3347
603-623-3600
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<http://www.gza.net>

GZA GeoEnvironmental, Inc. (GZA), on behalf of Hewlett-Packard Company (Hewlett-Packard), is pleased to submit to Environmental Quality Board (EQB) the enclosed Guanajibo River Surface Water and Sediment Sampling Results Report. Sampling was performed on March 11, 2004, which involved the collection of co-located surface water and sediment samples at four locations along the Guanajibo River in accordance with the EQB-approved Sampling and Analysis Plan (SAP) (dated August 2003), and GZA's response-to-comments letter to EQB (dated December 16, 2003).

Analytical results from this sampling effort, in combination with site-specific data, validates that the Hewlett-Packard remedial system in place effectively captures contaminated groundwater, and is not impacting the downgradient Guanajibo River.

If you have any questions, please contact me at (603) 623-3600 at your convenience.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Michael B. Asselin". The signature is written in a cursive, flowing style.

Michael B. Asselin
Senior Project Manager

MBA:rss

I:\jobs\20876\20876.62\River Sampling\sw-sed sampling report\coverltr.doc

Attachment

cc: Chris Davis; Goodwin Procter LLP
Margarita Maldonado; (PRIDCO) FOMENTO Planning and Public Affairs
Lee Manning; Hewlett-Packard
Susan Pearce; Hewlett-Packard
Pedro Reyes; Fiddler, Gonzalez & Rodriguez LLP

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FIGURE

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1.0 INTRODUCTION



This Guanajibo River Surface Water and Sediment Sampling Report (Report) is submitted to the Puerto Rico Environmental Quality Board (EQB) in support of the Hewlett-Packard Company (Hewlett-Packard) Voluntary Soil and Groundwater Remediation project at the former Digital Equipment Corporation (Digital) facility in San German, Puerto Rico. Hewlett-Packard, formerly Compaq Computer Corporation (Compaq), has retained GZA GeoEnvironmental, Inc. (GZA) to perform this work in accordance with the EQB-approved Sampling and Analysis Plan (SAP) (dated August 2003), as revised in GZA's response-to-comments letter to EQB (dated December 16, 2003). GZA followed the EQB-approved Quality Assurance Project Plan, Revision I dated August 2000, in performing this work.

The objective of this work is to document current surface water and sediment conditions relative to volatile organic compound concentrations at the former Digital San German project site, based on EQB comments to the Revised Well Monitoring Plan (dated June 23, 2003). Analytical results from this sampling effort, in combination with site-specific data, validates that the remedial system in place effectively captures contaminated groundwater, and is not impacting the downgradient Guanajibo River. The following sections of this Report provide a brief site description and history, summary of the sampling methods (including sample collection procedures and sample analysis), summary of the analytical results, findings, and conclusions.

Please note that the findings, opinions, conclusions, and recommendations presented herein are subject to the Limitations provided in *Appendix A*.

2.0 SITE DESCRIPTION

The former Digital facility is located on State Highway 362 in San German, Puerto Rico and consists of an approximate 18-acre industrial facility with three contiguous buildings (Buildings 1, 2, and 5), totaling approximately 200,000 square feet. The topography generally slopes downward from the central portion of the site where buildings are located, towards the parking areas to the west and southeast, with approximately 20 to 30 feet of relief. The former Digital facility is located approximately 1,000 feet south and 2,000 feet west of the Guanajibo River in a tributary drainage basin, and is bounded by a steep northeast to southeast trending ridge to the north and a smaller hill to the south.

The Guanajibo River generally flows in a westerly to northwesterly direction in this area. Flow characteristic of this river vary significantly as a result of seasonal fluctuations in precipitation and runoff. The mean-annual flow rate of the river near Hormigueros (approximately 7.5 miles downstream of San German) is approximately 200 cubic feet per second. On a monthly basis, the 90-percent duration (defined as the discharge that is exceeded 90-percent of the time) at this location ranges between approximately 10 cubic feet per second (in June) and approximately 115 cubic feet per second (in October and November).

3.0 BRIEF SITE HISTORY



The property is owned by the Puerto Rico Industrial Development Company (PRIDCO). PRIDCO leases and develops the property with tenants, where the tenants own the physical structures. Digital leased the property from PRIDCO from July 1968 to 1992, and operated a printed wire board (PWB) and module assembly manufacturing facility. In the mid-1970s, Digital used trichloroethylene (TCE), the primary chemical of concern for groundwater contamination at the site, in the Wave Solder Process as a degreaser and cleaning agent. Digital stopped using TCE in 1978, and terminated manufacturing operations in 1991. The facility was inactive between 1991 and 1993. In January 1993, the site was leased and occupied by Circo Caribe. The plant manufactured PWBs at the site until March 2001; however, they did not use TCE. In October 2001, an employee group (PCB Horizon Technology, Inc.) took over the facility and began low volume (one shift per day) production of PWBs in November 2002.

In preparation for Digital's sale of the facility and to meet the obligations of the PRIDCO property lease, Digital completed two environmental investigations in 1992 and 1993. These extensive environmental investigations identified site-wide groundwater contamination by chlorinated ethenes (i.e., TCE and cis-1,3-dichloroethylene [DCE]). Surface water and sediment samples were collected and analyzed at three locations along the Guanajibo River in 1993 to evaluate whether site contamination had impacted the river. The 1993 river sampling results detected no site related contamination in the Guanajibo River.

Digital's remedial strategy was: (1) a remediation system, which contained the contaminated groundwater by creating and maintaining a groundwater capture zone; and (2) a soil vapor extraction system to remove contaminants from the soil in the loading dock area. All remedial systems were designed in cooperation and approval of United States Environmental Protection Agency (EPA) Region II and the EQB. Operation of the remedial systems began in November 1995 and system operation has been continually monitored. In a letter dated July 16, 1996, EPA Region II named the EQB as the lead regulatory agency for the former Digital facility.

Compaq purchased Digital in 1998, and Hewlett-Packard merged with Compaq in May 2002. Hewlett-Packard continues to operate the soil vapor extraction system, the groundwater extraction wells, and the groundwater treatment system at the time of this Report. Groundwater data continues to show that the groundwater capture zone preventing contamination from migrating off site is being maintained.

4.0 SAMPLING METHODS

4.1 SAMPLE LOCATIONS

Surface water and sediment sampling was performed on March 11, 2004 on behalf of Hewlett-Packard by GZA's subcontractor, JFA Geologic & Environmental Scientists (JFA) of Aguadilla, Puerto Rico. Sampling activities included the collection of co-located surface water and sediment samples at four locations along the Guanajibo River, as illustrated on **Figure 1**. The selection of sampling locations was based on GZA's/JFA's observations of the river, access points to the river, and on the regional groundwater flow direction (west / northwest), relative to the location of the former Digital facility. Refer to **Appendix B** for photographs of each sample location. Samples were designated with the following identifications:



- GZA-SW-1/GZA-SD-1 – Upgradient (southeast) of the site;
- GZA-SW-2/GZA-SD-2 – Upgradient (southeast) of the site;
- GZA-SW-3/GZA-SD-3 – Downgradient (west) of the site; and
- GZA-SW-4/GZA-SD-4 – Downgradient (northwest) of the site.

The “SW” designates a surface water sample and the “SD” designates a sediment sample. The upgradient sampling locations GZA-SW-1/GZA-SD-1 and GZA-SW-2/GZA-SD-2 are reflective of background conditions.

4.2 SAMPLING PROCEDURES

Sampling was performed in general accordance with the EPA-approved Quality Assurance Project Plan, Revision 1 dated August 2000, and the EQB-approved SAP (dated August 2003), as revised in GZA’s response-to-comments letter to EQB (dated December 16, 2003). A general summary of sampling activities is provided below. For specific methodology, refer to the referenced SAP for the Standard Operating Procedures implemented for the work performed.

4.2.1 Surface Water Sampling Procedure

The depth of water within the Guanajibo River at the four sample locations was estimated to be between 0.5 foot and 1.5 feet deep on March 11, 2004. Each sample location was accessed by foot, due to the shallow nature of the river at the time of the sampling event. Sampling was performed from downstream to upstream locations so as to minimize potential disturbance to the river. At each location, surface water samples were collected prior to sediment samples, and upgradient of the sampler in-stream to ensure that the surface water sample was representative of actual flow conditions. Surface water samples were collected as grab samples, from the center of the river in the approximate center of the water column, using a dedicated glass container. The sample was immediately decanted to the appropriately preserved VOA vial, taking care to minimize agitation of the sample to the extent possible. Surface water at each sample location was also screened in the field for pH, temperature, conductivity, and dissolved oxygen (DO) using a portable, Horiba U-10-Water Quality Checker.

4.2.2 Sediment Sampling Procedure

Sediment samples were collected as grab samples from the approximate top 4 to 5.5 inches using a sediment-coring device. Refer to *Appendix C* for photographs of sediment sample collection device. Using a dedicated stainless steel scoop, sediment was immediately placed into appropriately preserved jars, taking care to minimize agitation of the sample to the extent possible.

4.2.3 Laboratory Analysis/Data Validation

For quality control/quality assurance purposes, one duplicate sample was collected for both surface water and sediment. All samples were submitted to Severn Trent Laboratories, Inc. of Tallahassee, Florida for volatile organic compound analysis by EPA Method 8021. All data was validated by a Puerto Rico-certified chemist.

5.0 ANALYTICAL RESULTS

Analytical results for the March 2004 surface water and sediment sampling of the Guanajibo River are presented in *Table 1* and *Table 2*, respectively. Refer to *Appendix D* for the Puerto Rico-certified laboratory analytical data reports.



5.1 SUMMARY SURFACE WATER RESULTS

Surface water was observed to be clear, with no sheens or odors at any of the four sampling locations. There were no contaminants detected in surface water above laboratory reporting limits.

Surface water quality field screening data collected is summarized in *Appendix E*. The following provides a general summary of these data results:

- DO ranged between 8.5 milligrams per liter (mg/L) (GZA-SW-3) and 11.14 mg/L (GZA-SW-2), with an average DO concentration of 9.9 mg/L;
- Conductivity ranged between 0.462 microseism per centimeter ($\mu\text{S}/\text{cm}$) (GZA-SW-1) and 0.490 $\mu\text{S}/\text{cm}$ (GZA-SW-4) with an average conductivity of 0.474 $\mu\text{S}/\text{cm}$;
- pH ranged between 5.98 (GZA-SW-3) and 6.85 (GZA-SW-2), with an average pH of 6.51; and
- Temperature ranged between 26.9 degrees Celsius ($^{\circ}\text{C}$) (GZA-SW-2) and 27.5 $^{\circ}\text{C}$ (GZA-SW-1), with an average temperature of 17.2 $^{\circ}\text{C}$.

5.2 SUMMARY OF SEDIMENT RESULTS

Sediment at the four sampling locations was generally found to consist of loose, medium to coarse gravel, with approximately 30 percent medium sand, and trace silt. There were no odors or visual evidence of contamination.

There were two compounds detected in the river sediment: (1) methylene chloride (dichloromethane); and (2) trichlorofluoromethane. Methylene chloride was detected in both upgradient (GZA-SD-1 and GZA-SD-2) and downgradient (GZA-SD-3 and GZA-SD-4) sediment samples. Concentrations ranged between an estimated 2.1 micrograms per liter ($\mu\text{g}/\text{L}$) and 8.0 ($\mu\text{g}/\text{L}$). The methylene chloride concentrations for GZA-SD-01 duplicate, GZA-SD-02, and GZA-SD-04 were estimated by the laboratory. Concentrations less than 5.0 $\mu\text{g}/\text{L}$ are considered “estimated” values, as the laboratory reporting limit for this compound is 5.0 $\mu\text{g}/\text{L}$. The highest methylene chloride concentration was detected in the most-upgradient location (GZA-SD-1). Refer to *Figure 1*.

Trichlorofluoromethane was detected in the farthest downgradient sediment sample location (GZA-SD-4) at an estimated concentration of 1.2 $\mu\text{g}/\text{L}$. The laboratory considered this concentration to be an estimate because the value was below the reporting limit for this compound (5.0 $\mu\text{g}/\text{L}$).

6.0 FINDINGS



Analytical results from the sampling of surface water and sediment along the Guanajibo River downgradient of the former Digital facility, in combination with site-specific data spanning 12 years, validates that Hewlett-Packard's remedial system effectively captures contaminated groundwater, and is not impacting the Guanajibo River. The primary contaminants of concern at the former Digital facility are TCE and its breakdown product, DCE. These contaminants were not detected in surface water or sediment at any of the sample locations above laboratory detection limits. These findings are consistent with the 1993 investigation, in which it was concluded that there were no measurable impacts to river surface water and sediment along the Guanajibo River from contaminated groundwater at the former Digital facility.

There were no contaminants detected in any of the four surface water locations. In sediment samples, two compounds were detected: (1) methylene chloride; and (2) trichlorofluoromethane. Low concentrations of methylene chloride (ranging between an estimated 2.1 µg/L and 8 µg/L) were detected in both upgradient and downgradient sampling locations. The highest concentration of methylene chloride (8 µg/L) was detected in the most upgradient sediment sample (GZA-SD-1). This indicates that there is an upgradient source of methylene chloride, unrelated to the former Digital facility.

A low concentration of trichlorofluoromethane (estimated by the laboratory to be 1.2 µg/L) was detected in sediment at the farthest downgradient sediment sampling location (GZA-SD-4). Historical records do not indicate that trichlorofluoromethane was used at the former Digital facility, nor has it ever been a contaminant of concern in the site groundwater. The Guanajibo River has a history of impaired water quality due to commercial and industrial discharges, and it is most likely that the source of trichlorofluoromethane is upgradient and unrelated to groundwater contamination at the former Digital facility.

It is confidently concluded that the groundwater contamination associated with the former Digital facility has had no measurable impact to the surface water and sediment along the Guanajibo River, and that the remedial system in place effectively maintains the groundwater capture zone, preventing migration of the contaminants of concern.

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TABLES

TABLE 1
Summary of Surface Water Sampling Results (µg/L) of the Guanajibo River
Hewlett-Packard Voluntary Remediation Project
San German, Puerto Rico

Surface Water Sample Location	Carbon tetrachloride	Chloroethane	Chloroform	Dichlorodifluoromethane	1,1- Dichloroethane (DCA)	1,2-Dichloroethane	1,1-Dichloroethene	1,2-Dichloropropane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Methylene chloride	Tetrachloroethene (PCE)	1,1,1- Trichloroethane (TCA)	1,1,2- Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	cis-1,2 Dichloroethene (DCE)	Chloromethane	Dibromochloromethane	trans-1,2 Dichloroethylene	1,3-Dichloropropene (total)
PR Water Quality Standards, Resolution R-03-5 (March 2003)	2.5	N/A	57	5.6	N/A	3.8	0.57	5.2	2,700	400	400	470	8	200	6	27	N/A	2	700 ¹	N/A	4.1	700	10
Upgradient GZA-SW-1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Upgradient GZA-SW-1 Duplicate	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Upgradient GZA-SW-2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Downgradient GZA-SW-3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Downgradient GZA-SW-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

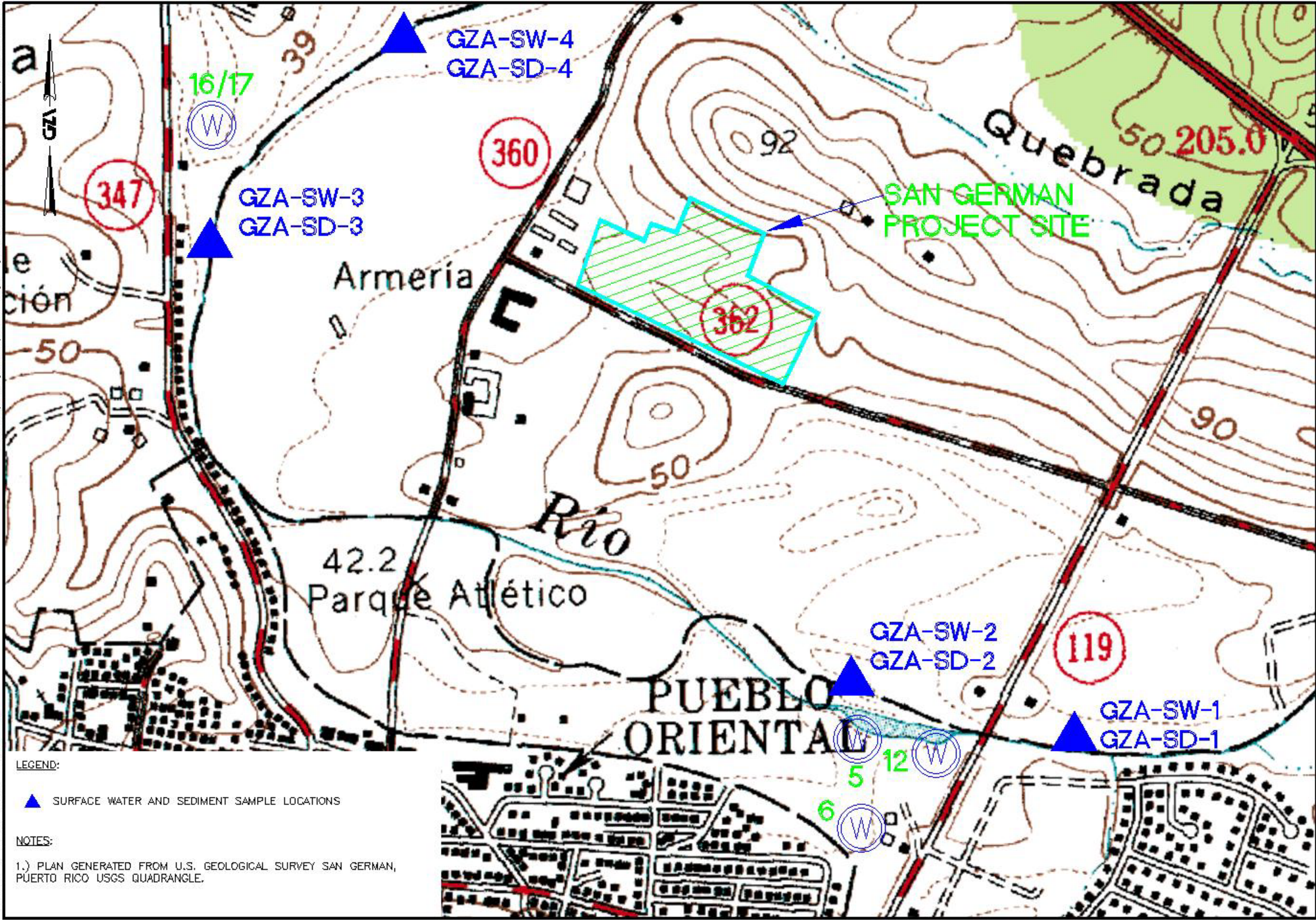
- Notes:
- 1. There is currently no PR Water Quality Standard for 1,2 Cis dichloroethene. The standard shown is the standard for 1,2 trans dichloroethene.
 - 2. *N/A* indicates no standard available
 - 3. Surface water samples were collected on March 11, 2004
 - 4. All units are in micrograms per liter (µg/L) or parts per billion (ppb)

TABLE 2
Summary of Sediment Sampling Results (µg/kg) of the Guanajibo River
Hewlett-Packard Voluntary Remediation Project
San German, Puerto Rico

Sediment Sample Location	Carbon tetrachloride	Chloroethane	Chloroform	Dichlorodifluoromethane	1,1- Dichloroethane (DCA)	1,2-Dichloroethane	1,1-Dichloroethene	1,2-Dichloropropane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Methylene chloride	Tetrachloroethene (PCE)	1,1,1-Trichloroethane (TCA)	1,1,2-Trichloroethane	Trichloroethene (TCE)	Trichlorofluoromethane	Vinyl chloride	cis-1,2 Dichloroethene (DCE)	Chloromethane	Dibromochloromethane	trans-1,2 Dichloroethylene	1,3-Dichloropropene (total)
Upgradient GZA-SD-1	<6.6	<13	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	8	<6.6	<6.6	<6.6	<6.6	<6.6	<13	<6.6	<13	<6.6	<6.6	<6.6
Upgradient GZA-SD-1 (Duplicate)	<6.6	<13	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	5.3J	<6.6	<6.6	<6.6	<6.6	<6.6	<13	<6.6	<13	<6.6	<6.6	<6.6
Upgradient GZA-SD-2	<5.0	<10	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2.1J	<5.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<10	<5.0	<5.0	<5.0
Downgradient GZA-SD-3	<5.3	<11	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	7.7	<5.3	<5.3	<5.3	<5.3	<5.3	<11	<5.3	<11	<5.3	<5.3	<5.3
Downgradient GZA-SD-4	<7.3	<15	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3	<7.3	3.1J	<7.3	<7.3	<7.3	<7.3	1.2J	<15	<7.3	<15	<7.3	<7.3	<7.3

Notes:
1. Sediment samples were collected on March 11, 2004.
2. All units are in micrograms per kilogram (µg/kg) or parts per billion (ppb).

FIGURE



LEGEND:

- ▲ SURFACE WATER AND SEDIMENT SAMPLE LOCATIONS

NOTES:

- 1.) PLAN GENERATED FROM U.S. GEOLOGICAL SURVEY SAN GERMAN, PUERTO RICO USGS QUADRANGLE.

<p>GZA GeoEnvironmental, Inc. Engineers and Scientists 250 HARVEY ROAD MANCHESTER, NEW HAMPSHIRE 03103 (803) 823-3600</p>		<p>DES'D BY : A.T.D. CHK'D BY : M.B.A. APP'D BY : M.B.A. DRAWN BY : A.P.W.</p>		<p>SCALE : 1" = 500' DATE : NOV. 2003</p>	
<p>SURFACE WATER AND SEDIMENT SAMPLING AND ANALYSIS PLAN HAWLETT-PACKARD VOLUNTARY REMEDIATION PROJECT FORMER DIGITAL EQUIPMENT CORPORATION SITE SAN GERMAN, PUERTO RICO</p>		<p>SAMPLING LOCATION PLAN</p>		<p>PROJECT No.: 20876.61 FIGURE No.: 1</p>	

APPENDIX A
LIMITATIONS

LIMITATIONS



1. The reported findings submitted in this report are based in part upon previous and recent data obtained from a limited number of samples from widely spaced surface water and sediment locations. The nature and extent of variations between these locations may not become evident until further investigation is performed. If variations or other latent conditions then appear evident, it will be necessary to re-evaluate the conclusions of this Report.
2. Quantitative laboratory testing was performed as part of this investigation. Where such analyses have been conducted by an outside laboratory, GZA GeoEnvironmental, Inc. (GZA) has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.
3. The findings contained in this Report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the Report. Some of these data were preliminary "screening" level data, and may have not been confirmed with quantitative analyses. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by GZA, and the findings presented herein modified accordingly.
4. Chemical analyses have been performed for specific parameters during the course of this study, as detailed in the text. It must be noted that additional constituents not searched for during the current study may be present in soil and groundwater at the site.

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APPENDIX B

PHOTOGRAPHS OF SAMPLING LOCATIONS

GUANAJIBO RIVER SURFACE WATER AND SEDIMENT SAMPLING

Hewlett-Packard Voluntary Remediation Project

San German, Puerto Rico



PHOTOGRAPH NO. 1 - Sample Location GZA-SW-1/GZA-SD-1



PHOTOGRAPH NO. 2 - Sample Location GZA-SW-1/GZA-SD-1

GUANAJIBO RIVER SURFACE WATER AND SEDIMENT SAMPLING

Hewlett-Packard Voluntary Remediation Project

San German, Puerto Rico



PHOTOGRAPH NO. 3 - Sample Location GZA-SW-2/GZA-SD-2



PHOTOGRAPH NO. 4 - Sample Location GZA-SW-2/GZA-SD-2

GUANAJIBO RIVER SURFACE WATER AND SEDIMENT SAMPLING

Hewlett-Packard Voluntary Remediation Project
San German, Puerto Rico



PHOTOGRAPH NO. 5 - Sample Location GZA-SW-3/GZA-SD-3



PHOTOGRAPH NO. 6 - Sample Location GZA-SW-3/GZA-SD-3

GUANAJIBO RIVER SURFACE WATER AND SEDIMENT SAMPLING
Hewlett-Packard Voluntary Remediation Project
San German, Puerto Rico



PHOTOGRAPH NO. 7 - Sample Location GZA-SW-4/GZA-SD-4

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APPENDIX C

PHOTOGRAPHS OF SEDIMENT SAMPLING DEVICE

GUANAJIBO RIVER SEDIMENT SAMPLING DEVICE

Hewlett-Packard Voluntary Remediation Project

San German, Puerto Rico



PHOTOGRAPH NO. 1



PHOTOGRAPH NO. 2

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APPENDIX D

PUERTO RICO-CERTIFIED LABORATORY ANALYTICAL REPORT

CERTIFICATE

I hereby certify that our staff have reviewed and evaluated all analytical raw data concerning laboratory reports of analyses for STL Log No(s): T412105, samples 1 through 15 and 27 (pages 1-21). To the best of my knowledge, the results for said log number signed by Laura B. Snead (STL Tallahassee Project Manager) are correct and reliable.



Validated & Certified by: XO + f

License No.: 8314

CHAIN-OF-CUSTODY DOCUMENTATION

06980

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

SEVERN

T R E N T

ITS

STL Tallahassee
2846 Industrial Plaza Drive
Tallahassee, FL 32301

Website: www.stl-inc.com
Phone: (850) 878-3994
Fax: (850) 878-9504



T412105

☐ Alternate Laboratory Name/Location

Phone: _____
Fax: _____

PROJECT REFERENCE GZA-Bima Sampling		PROJECT NO.		PROJECT LOCATION (STATE) OR		MATRIX TYPE		REQUIRED ANALYSIS						PAGE 1	OF 2
SAMPLER'S SIGNATURE [Signature]		P.O. NUMBER		CONTRACT NO.		COMPOSITE (C) OR GRAB (G) INDICATE								STANDARD REPORT DELIVERY <input type="radio"/>	
CLIENT (SITE) PM JFA		CLIENT PHONE		CLIENT FAX		AQUEOUS (WATER)								DATE DUE _____	
CLIENT NAME GZA		CLIENT E-MAIL				SOLID OR SEMISOLID								EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="radio"/>	
CLIENT ADDRESS Norchester NH						AIR								DATE DUE _____	
COMPANY CONTRACTING THIS WORK (if applicable) Nondestructive						NON-AQUEOUS LIQUID (OIL, SOLVENT...)								NUMBER OF COOLERS SUBMITTED PER SHIPMENT: 1	
SAMPLE		TIME		SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS SUBMITTED								REMARKS	
DATE															
3-16-04	1010				GZA-SW-1	GX								3	
	1030				GZA-SD-1	X								1	
	1015				GZA-SW-1 Dup	X								3	
	1040				GZA-SD-1 Dup	X								1	
	1130				GZA-SW-2	X								3	
	1145				GZA-SD-2	X								1	
	1235				GZA-SW-3	X								3	
	1245				GZA-SD-3	X								1	
	1305				GZA-SW-4	X								3	
	1315				GZA-SD-4	X								1	
LAB	LAB				Trip Blank	X								3	
LAB	LAB				Temperature Blank	X								1	
RELINQUISHED BY: (SIGNATURE) [Signature]		DATE 2/9/04		TIME 1700		RELINQUISHED BY: (SIGNATURE) [Signature]		DATE 3/16/04		TIME 1600		RELINQUISHED BY: (SIGNATURE)		DATE	TIME
RECEIVED BY: (SIGNATURE) [Signature]		DATE 2/9/04		TIME 1700		RECEIVED BY: (SIGNATURE) [Signature]		DATE 3/16/04		TIME 1600		RECEIVED BY: (SIGNATURE)		DATE	TIME
EMPTY CONTAINERS															

LABORATORY REMARKS

USE ONLY
STL TALLAHASSEE

LABORATORY USE ONLY	CUSTODY	STL TA
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CUSTODY INTACT

TIME

DATE

RECEIVED FOR LABORATORY BY:

LOG NO. T4D105

3/17/04 900

SIGNATURE 

STL8240-640 (12/02)

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Phone: (850) 878-3994
Fax: (850) 878-9504

STL8240-640 (12/02)

LABORATORY REPORT

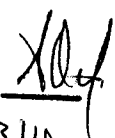
Analytical Report

For: Mr. Michael Asselin
GZA GeoEnvironmental, Inc.
380 Harvey Road
Manchester, NH 03103-3347
CC:

Order Number: T412105
SDG Number: GZA065
Client Project ID:
Project: Guanajibo River Sampling
Report Date: 04/05/2004
Sampled By: Client
Sample Received Date: 03/17/2004
Requisition Number:
Purchase Order:



Laura B. Snead, Project Manager
lsnead@stl-inc.com

Validated & Certified by: 

License No.: 2314

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Sample Summary

Order: T412105
Date Received: 03/17/2004

Client: GZA GeoEnvironmental, Inc.
Project: Guanajibo River Sampling

Client Sample ID	Lab Sample ID	Matrix	Date Sampled
GZA-SW-1	T412105*1	Liquid	03/11/2004 10:10
GZA-SW-1 DUP	T412105*2	Liquid	03/11/2004 10:15
GZA-SW-2	T412105*3	Liquid	03/11/2004 11:30
GZA-SW-3	T412105*4	Liquid	03/11/2004 12:35
GZA-SW-4	T412105*5	Liquid	03/11/2004 13:05
Trip Blank	T412105*6	Liquid	03/11/2004
Field Blank	T412105*7	Liquid	03/11/2004 10:45
Equipment Blank-SW	T412105*8	Liquid	03/11/2004 09:55
Equipment Blank-SD	T412105*9	Liquid	03/11/2004 10:05
GZA-SD-1	T412105*10	Solid	03/11/2004 10:30
GZA-SD-1 DUP	T412105*11	Solid	03/11/2004 10:40
GZA-SD-2	T412105*12	Solid	03/11/2004 11:45
GZA-SD-3	T412105*13	Solid	03/11/2004 12:45
GZA-SD-4	T412105*14	Solid	03/11/2004 13:15
Laboratory Duplicate Result (Batch)	T412105*15	Liquid	
Laboratory Duplicate Result (Batch)	T412105*27	Solid	

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-1	GZA-SW-1	Liquid	03/17/04	03/11/04 10:10	GZA065
12105-2	GZA-SW-1 DUP	Liquid	03/17/04	03/11/04 10:15	GZA065
12105-3	GZA-SW-2	Liquid	03/17/04	03/11/04 11:30	GZA065
12105-4	GZA-SW-3	Liquid	03/17/04	03/11/04 12:35	GZA065
12105-5	GZA-SW-4	Liquid	03/17/04	03/11/04 13:05	GZA065

Parameter	Units	Lab Sample IDs				
		12105-1	12105-2	12105-3	12105-4	12105-5
Purgeable Halocarbons (8021)						
Bromodichloromethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Bromoform	ug/l	5.0U	5.0U	5.0U	5.0U	5.0U
Bromomethane (Methyl bromide)	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Carbon tetrachloride	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Chlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Chloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Chloroform	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Chloromethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Dibromochloromethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,2-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,3-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,4-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Dichlorodifluoromethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,1-Dichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,2-Dichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,1-Dichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
cis-1,2-Dichloroethylene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
trans-1,2-Dichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,2-Dichloropropane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
cis-1,3-Dichloropropene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
trans-1,3-Dichloropropene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Methylene chloride						
(Dichloromethane)	ug/l	5.0U	5.0U	5.0U	5.0U	5.0U
1,1,2,2-Tetrachloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Tetrachloroethene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
1,1,1-Trichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-1	GZA-SW-1	Liquid	03/17/04	03/11/04 10:10	GZA065
12105-2	GZA-SW-1 DUP	Liquid	03/17/04	03/11/04 10:15	GZA065
12105-3	GZA-SW-2	Liquid	03/17/04	03/11/04 11:30	GZA065
12105-4	GZA-SW-3	Liquid	03/17/04	03/11/04 12:35	GZA065
12105-5	GZA-SW-4	Liquid	03/17/04	03/11/04 13:05	GZA065

Parameter	Units	Lab Sample IDs				
		12105-1	12105-2	12105-3	12105-4	12105-5

Purgeable Halocarbons (8021)

1,1,2-Trichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Trichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Trichlorofluoromethane	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
Vinyl chloride	ug/l	1.0U	1.0U	1.0U	1.0U	1.0U
2-Chloroethylvinyl ether	ug/l	10U	10U	10U	10U	10U
Surrogate -						
Bromochloromethane *	%	110 %	110 %	110 %	110 %	110 %
Dilution Factor		1	1	1	1	1
Prep Date		03/22/04	03/22/04	03/23/04	03/23/04	03/23/04
Analysis Date		03/22/04	03/23/04	03/23/04	03/23/04	03/23/04
Batch ID		VG031904A	VG031904A	VG031904A	VG031904A	VG031904A

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-6	Trip Blank	Liquid	03/17/04	03/11/04	GZA065
12105-7	Field Blank	Liquid	03/17/04	03/11/04 10:45	GZA065
12105-8	Equipment Blank-SW	Liquid	03/17/04	03/11/04 09:55	GZA065
12105-9	Equipment Blank-SD	Liquid	03/17/04	03/11/04 10:05	GZA065

Parameter	Units	Lab Sample IDs			
		12105-6	12105-7	12105-8	12105-9
Purgeable Halocarbons (8021)					
Bromodichloromethane	ug/l	1.0U	1.0U	1.0U	1.0U
Bromoform	ug/l	5.0U	5.0U	5.0U	5.0U
Bromomethane (Methyl bromide)	ug/l	1.0U	1.0U	1.0U	1.0U
Carbon tetrachloride	ug/l	1.0U	1.0U	1.0U	1.0U
Chlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U
Chloroethane	ug/l	1.0U	1.0U	1.0U	1.0U
Chloroform	ug/l	1.0U	1.0U	1.0U	1.0U
Chloromethane	ug/l	1.0U	1.0U	1.0U	1.0U
Dibromochloromethane	ug/l	1.0U	1.0U	1.0U	1.0U
1,2-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U
1,3-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U
1,4-Dichlorobenzene	ug/l	1.0U	1.0U	1.0U	1.0U
Dichlorodifluoromethane	ug/l	1.0U	1.0U	1.0U	1.0U
1,1-Dichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U
1,2-Dichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U
1,1-Dichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U
cis-1,2-Dichloroethylene	ug/l	1.0U	1.0U	1.0U	1.0U
trans-1,2-Dichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U
1,2-Dichloropropane	ug/l	1.0U	1.0U	1.0U	1.0U
cis-1,3-Dichloropropene	ug/l	1.0U	1.0U	1.0U	1.0U
trans-1,3-Dichloropropene	ug/l	1.0U	1.0U	1.0U	1.0U
Methylene chloride					
(Dichloromethane)	ug/l	5.0U	5.0U	5.0U	5.0U
1,1,2,2-Tetrachloroethane	ug/l	1.0U	1.0U	1.0U	1.0U
Tetrachloroethene	ug/l	1.0U	1.0U	1.0U	1.0U
1,1,1-Trichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U
1,1,2-Trichloroethane	ug/l	1.0U	1.0U	1.0U	1.0U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-6	Trip Blank	Liquid	03/17/04	03/11/04	GZA065
12105-7	Field Blank	Liquid	03/17/04	03/11/04 10:45	GZA065
12105-8	Equipment Blank-SW	Liquid	03/17/04	03/11/04 09:55	GZA065
12105-9	Equipment Blank-SD	Liquid	03/17/04	03/11/04 10:05	GZA065

Parameter	Units	Lab Sample IDs			
		12105-6	12105-7	12105-8	12105-9

Purgeable Halocarbons (8021)

Trichloroethene	ug/l	1.0U	1.0U	1.0U	1.0U
Trichlorofluoromethane	ug/l	1.0U	1.0U	1.0U	1.0U
Vinyl chloride	ug/l	1.0U	1.0U	1.0U	1.0U
2-Chloroethylvinyl ether	ug/l	10U	10U	10U	10U
Surrogate -					
Bromochloromethane *	%	110 %	110 %	115 %	110 %
Dilution Factor		1	1	1	1
Prep Date		03/22/04	03/22/04	03/22/04	03/22/04
Analysis Date		03/22/04	03/22/04	03/22/04	03/22/04
Batch ID		VG031904A	VG031904A	VG031904A	VG031904A

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-10	GZA-SD-1	Solid	03/17/04	03/11/04 10:30	GZA065
12105-11	GZA-SD-1 DUP	Solid	03/17/04	03/11/04 10:40	GZA065
12105-12	GZA-SD-2	Solid	03/17/04	03/11/04 11:45	GZA065
12105-13	GZA-SD-3	Solid	03/17/04	03/11/04 12:45	GZA065
12105-14	GZA-SD-4	Solid	03/17/04	03/11/04 13:15	GZA065

Parameter	Units	Lab Sample IDs				
		12105-10	12105-11	12105-12	12105-13	12105-14

Purgeable Halocarbons (8260)

Bromodichloromethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Bromoform	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Bromomethane (Methyl bromide)	ug/kg dw	13U	13U	10U	11U	15U
Carbon tetrachloride	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Chlorobenzene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Chloroethane	ug/kg dw	13U	13U	10U	11U	15U
2-Chloroethylvinyl ether	ug/kg dw	66U	66U	50U	53U	73U
Chloroform	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Chloromethane	ug/kg dw	13U	13U	10U	11U	15U
Dibromochloromethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,2-Dichlorobenzene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,3-Dichlorobenzene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,4-Dichlorobenzene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Dichlorodifluoromethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,1-Dichloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,2-Dichloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,1-Dichloroethene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
cis-1,2-Dichloroethylene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
trans-1,2-Dichloroethene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,2-Dichloropropane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
cis-1,3-Dichloropropene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
trans-1,3-Dichloropropene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Methylene chloride						
(Dichloromethane)	ug/kg dw	8.0	5.3J	2.1J	7.7	3.1J
1,1,2,2-Tetrachloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Tetrachloroethene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-10	GZA-SD-1	Solid	03/17/04	03/11/04 10:30	GZA065
12105-11	GZA-SD-1 DUP	Solid	03/17/04	03/11/04 10:40	GZA065
12105-12	GZA-SD-2	Solid	03/17/04	03/11/04 11:45	GZA065
12105-13	GZA-SD-3	Solid	03/17/04	03/11/04 12:45	GZA065
12105-14	GZA-SD-4	Solid	03/17/04	03/11/04 13:15	GZA065

Parameter	Units	Lab Sample IDs				
		12105-10	12105-11	12105-12	12105-13	12105-14

Purgeable Halocarbons (8260)

1,1,1-Trichloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,1,2-Trichloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Trichloroethene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Trichlorofluoromethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	1.2J
Vinyl chloride	ug/kg dw	13U	13U	10U	11U	15U
Dibromomethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Bromobenzene	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,1,1,2-Tetrachloroethane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
1,2,3-Trichloropropane	ug/kg dw	6.6U	6.6U	5.0U	5.3U	7.3U
Surrogate -						
Dibromofluoromethane *	%	118 %	114 %	114 %	113 %	111 %
Surrogate - Toluene-d8 *	%	95 %	91 %	90 %	94 %	88 %
Surrogate -						
4-Bromofluorobenzene *	%	86 %	82 %	80 %	85 %	75 %
Dilution Factor		1	1	1	1	1
Prep Date		03/23/04	03/23/04	03/23/04	03/23/04	03/23/04
Analysis Date		03/23/04	03/23/04	03/23/04	03/23/04	03/23/04
Batch ID		VM031904Q	VM031904Q	VM031904Q	VM031904Q	VM031904Q

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-15	Laboratory Duplicate Result (Batch)	Liquid	03/17/04		GZA065
12105-41	Precision (%RPD) of Laboratory Duplicates (Advisory)	Liquid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs	
		12105-15	12105-41

Purgeable Halocarbons (8021)

Bromodichloromethane	ug/l	1.00	0 %
Bromoform	ug/l	5.00	0 %
Bromomethane (Methyl bromide)	ug/l	1.00	0 %
Carbon tetrachloride	ug/l	1.00	0 %
Chlorobenzene	ug/l	1.00	0 %
Chloroethane	ug/l	1.00	0 %
Chloroform	ug/l	1.00	0 %
Chloromethane	ug/l	1.00	0 %
Dibromochloromethane	ug/l	1.00	0 %
1,2-Dichlorobenzene	ug/l	1.00	0 %
1,3-Dichlorobenzene	ug/l	1.00	0 %
1,4-Dichlorobenzene	ug/l	1.00	0 %
Dichlorodifluoromethane	ug/l	1.00	0 %
1,1-Dichloroethane	ug/l	1.00	0 %
1,2-Dichloroethane	ug/l	1.00	0 %
1,1-Dichloroethene	ug/l	1.00	0 %
cis-1,2-Dichloroethylene	ug/l	1.00	0 %
trans-1,2-Dichloroethene	ug/l	1.00	0 %
1,2-Dichloropropane	ug/l	1.00	0 %
cis-1,3-Dichloropropene	ug/l	1.00	0 %
trans-1,3-Dichloropropene	ug/l	1.00	0 %
Methylene chloride			
(Dichloromethane)	ug/l	5.00	0 %
1,1,2,2-Tetrachloroethane	ug/l	1.00	0 %
Tetrachloroethene	ug/l	1.00	0 %
1,1,1-Trichloroethane	ug/l	1.00	0 %
1,1,2-Trichloroethane	ug/l	1.00	0 %
Trichloroethene	ug/l	1.00	0 %
Trichlorofluoromethane	ug/l	1.00	0 %

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-15	Laboratory Duplicate Result (Batch)	Liquid	03/17/04		GZA065
12105-41	Precision (%RPD) of Laboratory Duplicates (Advisory)	Liquid	03/17/04		GZA065

Lab Sample IDs				
Parameter	Units	12105-15	12105-41	

Purgeable Halocarbons (8021)

Vinyl chloride	ug/l	1.00	0 %
2-Chloroethylvinyl ether	ug/l	100	0 %
Surrogate -			
Bromochloromethane *	%	110 %	
Dilution Factor		1	
Prep Date		03/23/04	
Analysis Date		03/23/04	
Batch ID		VG031904A	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-16	Method Blank	Liquid	03/17/04		GZA065
12105-17	Lab Control Standard % Recovery	Liquid	03/17/04		GZA065
12105-18	Lab Control Standard Duplicate % Recovery	Liquid	03/17/04		GZA065
12105-19	Precision (%RPD)	Liquid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs			
		12105-16	12105-17	12105-18	12105-19

Purgeable Halocarbons (8021)

Bromodichloromethane	ug/l	1.00			
Bromoform	ug/l	5.00			
Bromomethane (Methyl bromide)	ug/l	1.00			
Carbon tetrachloride	ug/l	1.00			
Chlorobenzene	ug/l	1.00	100 %	105 %	4.9 %
Chloroethane	ug/l	1.00			
Chloroform	ug/l	1.00			
Chloromethane	ug/l	1.00			
Dibromochloromethane	ug/l	1.00			
1,2-Dichlorobenzene	ug/l	1.00			
1,3-Dichlorobenzene	ug/l	1.00			
1,4-Dichlorobenzene	ug/l	1.00			
Dichlorodifluoromethane	ug/l	1.00			
1,1-Dichloroethane	ug/l	1.00			
1,2-Dichloroethane	ug/l	1.00			
1,1-Dichloroethene	ug/l	1.00	95 %	100 %	5.1 %
cis-1,2-Dichloroethylene	ug/l	1.00			
trans-1,2-Dichloroethene	ug/l	1.00			
1,2-Dichloropropane	ug/l	1.00			
cis-1,3-Dichloropropene	ug/l	1.00			
trans-1,3-Dichloropropene	ug/l	1.00			
Methylene chloride					
(Dichloromethane)	ug/l	5.00			
1,1,2,2-Tetrachloroethane	ug/l	1.00			
Tetrachloroethene	ug/l	1.00			
1,1,1-Trichloroethane	ug/l	1.00			
1,1,2-Trichloroethane	ug/l	1.00			

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-16	Method Blank	Liquid	03/17/04		GZA065
12105-17	Lab Control Standard % Recovery	Liquid	03/17/04		GZA065
12105-18	Lab Control Standard Duplicate % Recovery	Liquid	03/17/04		GZA065
12105-19	Precision (%RPD)	Liquid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs			
		12105-16	12105-17	12105-18	12105-19
Purgeable Halocarbons (8021)					
Trichloroethene	ug/l	1.00	85 %	90 %	5.7 %
Trichlorofluoromethane	ug/l	1.00			
Vinyl chloride	ug/l	1.00			
2-Chloroethylvinyl ether	ug/l	1.00			
Surrogate -					
Bromochloromethane *	%	105 %	100 %	105 %	
Dilution Factor		1	1	1	
Prep Date		03/22/04	03/22/04	03/22/04	
Analysis Date		03/22/04	03/22/04	03/22/04	
Batch ID		VG031904A	VG031904A	VG031904A	VG031904A

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-20	Matrix Spike Result (Batch)	Liquid	03/17/04		GZA065
12105-21	Matrix Spike Duplicate Result (Batch)	Liquid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs	
		12105-20	12105-21

Purgeable Halocarbons (8021)

Chlorobenzene	ug/l	20	21
1,1-Dichloroethene	ug/l	19	19
Trichloroethene	ug/l	14	16
Surrogate -			
Bromochloromethane *	%	105 %	105 %
Dilution Factor		1	1
Prep Date		03/23/04	03/23/04
Analysis Date		03/23/04	03/23/04
Batch ID		VG031904A	VG031904A

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-22	Matrix Spike % Recovery	Liquid	03/17/04		GZA065
12105-23	Matrix Spike Duplicate % Recovery	Liquid	03/17/04		GZA065
12105-24	Precision (%RPD) MS/MSD	Liquid	03/17/04		GZA065
12105-25	MS Accuracy Advisory Limit (%R)	Liquid	03/17/04		GZA065
12105-26	MS Precision Advisory Limit (%RPD)	Liquid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs				
		12105-22	12105-23	12105-24	12105-25	12105-26

Purgeable Halocarbons (8021)

Chlorobenzene	%	100 %	105 %	4.9 %	69-135 %	<30 %
1,1-Dichloroethene	%	95 %	95 %	0 %	56-146 %	<30 %
Trichloroethene	%	70 %	80 %	13 %	69-143 %	<30 %
Surrogate -						
Bromochloromethane *	%	105 %	105 %		45-155 %	
Dilution Factor		1	1			
Analysis Date		03/23/04	03/23/04			
Batch ID		VG031904A	VG031904A	VG031904A		

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-27	Laboratory Duplicate Result (Batch)	Solid	03/17/04		GZA065
12105-42	Precision (%RPD) of Laboratory Duplicates (Advisory)	Solid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs	
		12105-27	12105-42

Purgeable Halocarbons (8260)

Bromodichloromethane	ug/kg dw	5.3U	0 %
Bromoform	ug/kg dw	5.3U	0 %
Bromomethane (Methyl bromide)	ug/kg dw	11U	0 %
Carbon tetrachloride	ug/kg dw	5.3U	0 %
Chlorobenzene	ug/kg dw	5.3U	0 %
Chloroethane	ug/kg dw	11U	0 %
2-Chloroethylvinyl ether	ug/kg dw	53U	0 %
Chloroform	ug/kg dw	5.3U	0 %
Chloromethane	ug/kg dw	11U	0 %
Dibromochloromethane	ug/kg dw	5.3U	0 %
1,2-Dichlorobenzene	ug/kg dw	5.3U	0 %
1,3-Dichlorobenzene	ug/kg dw	5.3U	0 %
1,4-Dichlorobenzene	ug/kg dw	5.3U	0 %
Dichlorodifluoromethane	ug/kg dw	5.3U	0 %
1,1-Dichloroethane	ug/kg dw	5.3U	0 %
1,2-Dichloroethane	ug/kg dw	5.3U	0 %
1,1-Dichloroethene	ug/kg dw	5.3U	0 %
cis-1,2-Dichloroethylene	ug/kg dw	5.3U	0 %
trans-1,2-Dichloroethene	ug/kg dw	5.3U	0 %
1,2-Dichloropropane	ug/kg dw	5.3U	0 %
cis-1,3-Dichloropropene	ug/kg dw	5.3U	0 %
trans-1,3-Dichloropropene	ug/kg dw	5.3U	0 %
Methylene chloride			
(Dichloromethane)	ug/kg dw	6.1	23.2 %
1,1,2,2-Tetrachloroethane	ug/kg dw	5.3U	0 %
Tetrachloroethene	ug/kg dw	5.3U	0 %
1,1,1-Trichloroethane	ug/kg dw	5.3U	0 %
1,1,2-Trichloroethane	ug/kg dw	5.3U	0 %
Trichloroethene	ug/kg dw	5.3U	0 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-27	Laboratory Duplicate Result (Batch)	Solid	03/17/04		GZA065
12105-42	Precision (%RPD) of Laboratory Duplicates (Advisory)	Solid	03/17/04		GZA065
Lab Sample IDs					
Parameter	Units	12105-27	12105-42		

Purgeable Halocarbons (8260)

Trichlorofluoromethane	ug/kg dw	5.3U	0 %
Vinyl chloride	ug/kg dw	11U	0 %
Dibromomethane	ug/kg dw	5.3U	0 %
Bromobenzene	ug/kg dw	5.3U	0 %
1,1,1,2-Tetrachloroethane	ug/kg dw	5.3U	0 %
1,2,3-Trichloropropane	ug/kg dw	5.3U	0 %
Surrogate -			
Dibromofluoromethane *	%	113%	
Surrogate - Toluene-d8 *	%	96%	
Surrogate -			
4-Bromofluorobenzene *	%	85%	
Dilution Factor		1	
Prep Date		03/25/04	
Analysis Date		03/25/04	
Batch ID		VM031904Q	

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-28	Method Blank	Solid	03/17/04		GZA065
12105-29	Lab Control Standard % Recovery	Solid	03/17/04		GZA065
12105-30	Lab Control Standard Duplicate % Recovery	Solid	03/17/04		GZA065
12105-31	Precision (%RPD)	Solid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs			
		12105-28	12105-29	12105-30	12105-31

Purgeable Halocarbons (8260)

Bromodichloromethane	ug/kg dw	5.00			
Bromoform	ug/kg dw	5.00			
Bromomethane (Methyl bromide)	ug/kg dw	100			
Carbon tetrachloride	ug/kg dw	5.00			
Chlorobenzene	ug/kg dw	5.00	108 %*F97	106 %	1.9 %
Chloroethane	ug/kg dw	100			
2-Chloroethylvinyl ether	ug/kg dw	500			
Chloroform	ug/kg dw	5.00			
Chloromethane	ug/kg dw	100			
Dibromochloromethane	ug/kg dw	5.00			
1,2-Dichlorobenzene	ug/kg dw	5.00			
1,3-Dichlorobenzene	ug/kg dw	5.00			
1,4-Dichlorobenzene	ug/kg dw	5.00			
Dichlorodifluoromethane	ug/kg dw	5.00			
1,1-Dichloroethane	ug/kg dw	5.00			
1,2-Dichloroethane	ug/kg dw	5.00			
1,1-Dichloroethene	ug/kg dw	5.00	112 %	112 %	0 %
cis-1,2-Dichloroethylene	ug/kg dw	5.00			
trans-1,2-Dichloroethene	ug/kg dw	5.00			
1,2-Dichloropropane	ug/kg dw	5.00			
cis-1,3-Dichloropropene	ug/kg dw	5.00			
trans-1,3-Dichloropropene	ug/kg dw	5.00			
Methylene chloride					
(Dichloromethane)	ug/kg dw	5.00			
1,1,2,2-Tetrachloroethane	ug/kg dw	5.00			
Tetrachloroethene	ug/kg dw	5.00			
1,1,1-Trichloroethane	ug/kg dw	5.00			

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-28	Method Blank	Solid	03/17/04		GZA065
12105-29	Lab Control Standard % Recovery	Solid	03/17/04		GZA065
12105-30	Lab Control Standard Duplicate % Recovery	Solid	03/17/04		GZA065
12105-31	Precision (%RPD)	Solid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs			
		12105-28	12105-29	12105-30	12105-31
Purgeable Halocarbons (8260)					
1,1,2-Trichloroethane	ug/kg dw	5.0U			
Trichloroethene	ug/kg dw	5.0U	106 %	106 %	0 %
Trichlorofluoromethane	ug/kg dw	5.0U			
Vinyl chloride	ug/kg dw	10U			
Dibromomethane	ug/kg dw	5.0U			
Bromobenzene	ug/kg dw	5.0U			
1,1,1,2-Tetrachloroethane	ug/kg dw	5.0U			
1,2,3-Trichloropropane	ug/kg dw	5.0U			
Surrogate -					
Dibromofluoromethane *	%	108 %	110 %	111 %	
Surrogate - Toluene-d8 *	%	98 %	99 %	102 %	
Surrogate -					
4-Bromofluorobenzene *	%	92 %	96 %	96 %	
Dilution Factor		1	1	1	
Prep Date		03/23/05	03/23/04	03/23/04	
Analysis Date		03/23/04	03/23/04	03/23/04	
Batch ID		VM031904Q	VM031904Q	VM031904Q	VM031904Q

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-32	Matrix Spike Result (Batch)	Solid	03/17/04		GZA065
12105-33	Matrix Spike Duplicate Result (Batch)	Solid	03/17/04		GZA065
Lab Sample IDs					
Parameter	Units	12105-32	12105-33		

Purgeable Halocarbons (8260)

Chlorobenzene	ug/kg dw	81	72
1,1-Dichloroethene	ug/kg dw	92	82
Trichloroethene	ug/kg dw	77	70
Surrogate -			
Dibromofluoromethane *	%	118 %	112 %
Surrogate - Toluene-d8 *	%	98 %	97 %
Surrogate -			
4-Bromofluorobenzene *	%	94 %	91 %
Dilution Factor		1	1
Prep Date		03/23/04	03/23/04
Analysis Date		03/23/04	03/23/04
Batch ID		VM031904Q	VM031904Q

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
12105-34	Matrix Spike % Recovery	Solid	03/17/04		GZA065
12105-35	Matrix Spike Duplicate % Recovery	Solid	03/17/04		GZA065
12105-36	Precision (%RPD) MS/MSD	Solid	03/17/04		GZA065
12105-37	MS Accuracy Advisory Limit (%R)	Solid	03/17/04		GZA065
12105-38	MS Precision Advisory Limit (%RPD)	Solid	03/17/04		GZA065

Parameter	Units	Lab Sample IDs				
		12105-34	12105-35	12105-36	12105-37	12105-38

Purgeable Halocarbons (8260)

Chlorobenzene	%	116 %*F98	112 %*F98	12 %	83-107 %	<50 %
1,1-Dichloroethene	%	131 %*F98	128 %*F98	11 %	57-114 %	<50 %
Trichloroethene	%	110 %	109 %	9.5 %	66-114 %	<50 %
Surrogate -						
Dibromofluoromethane *	%				58-142 %	
Surrogate - Toluene-d8 *	%				64-136 %	
Surrogate -						
4-Bromofluorobenzene *	%				63-135 %	
Batch ID		VM031904Q	VM031904Q	VM031904Q		

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These test results meet all the requirements of NELAC. Any questions regarding this test report should be directed to the STL Project Manager who signed this test.

Methods: EPA SW-846 Update III

J Estimated value; reported between the method detection limit and the reporting limit.

U Compound was not detected.

*F97 Accuracy recovery was higher than the Laboratory calculated control limits, but within recommended method criteria.

*F98 MS/MSD recovery exceeded STL advisory limits.

Analytical Report


For: Mr. Michael Asselin
GZA GeoEnvironmental, Inc.
380 Harvey Road
Manchester, NH 03103-3347

CC:

Order Number: T4GZAQC
SDG Number:
Client Project ID:
Project: COMPAQ-S60
Report Date: 04/05/2004
Sampled By: Client
Sample Received Date: 02/09/2004
Requisition Number:
Purchase Order:



Laura B. Snead, Project Manager
lsnead@stl-inc.com

Validated & Certified by: 

License No.: 2314

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDC#
GZAQC-1	Reporting Limit (RL)	Liquid	02/09/04		
GZAQC-2	Method Detection Limit (MDL)	Liquid	02/09/04		

Parameter	Units	Lab Sample IDs	
		GZAQC-1	GZAQC-2

Purgeable Halocarbons (8021)			
Bromodichloromethane	ug/l	1.0	0.17
Bromoform	ug/l	5.0	0.54
Bromomethane (Methyl bromide)	ug/l	1.0	0.52
Carbon tetrachloride	ug/l	1.0	0.098
Chlorobenzene	ug/l	1.0	0.15
Chloroethane	ug/l	1.0	0.29
Chloroform	ug/l	1.0	0.18
Chloromethane	ug/l	1.0	0.25
Dibromochloromethane	ug/l	1.0	0.16
1,2-Dichlorobenzene	ug/l	1.0	0.19
1,3-Dichlorobenzene	ug/l	1.0	0.14
1,4-Dichlorobenzene	ug/l	1.0	0.21
Dichlorodifluoromethane	ug/l	1.0	0.18
1,1-Dichloroethane	ug/l	1.0	0.13
1,2-Dichloroethane	ug/l	1.0	0.16
1,1-Dichloroethene	ug/l	1.0	0.19
cis-1,2-Dichloroethylene	ug/l	1.0	0.090
trans-1,2-Dichloroethene	ug/l	1.0	0.12
1,2-Dichloropropane	ug/l	1.0	0.15
cis-1,3-Dichloropropene	ug/l	1.0	0.14
trans-1,3-Dichloropropene	ug/l	1.0	0.11
Methylene chloride			
(Dichloromethane)	ug/l	5.0	0.21
1,1,2,2-Tetrachloroethane	ug/l	1.0	0.056
Tetrachloroethene	ug/l	1.0	0.17
1,1,1-Trichloroethane	ug/l	1.0	0.11
1,1,2-Trichloroethane	ug/l	1.0	0.15
Trichloroethene	ug/l	1.0	0.17
Trichlorofluoromethane	ug/l	1.0	0.29
Vinyl chloride	ug/l	1.0	0.25

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-1	Reporting Limit (RL)	Liquid	02/09/04		
GZAQC-2	Method Detection Limit (MDL)	Liquid	02/09/04		
Parameter	Units	Lab Sample IDs			
		GZAQC-1	GZAQC-2		
Purgeable Halocarbons (8021)					
2-Chloroethylvinyl ether	ug/l	10	1.3		

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-3	Spike Amount Added, LCS/LCSD	Liquid	02/09/04		
GZAQC-4	LCS Accuracy Control Limit (%R)	Liquid	02/09/04		
GZAQC-5	LCS Precision Control Limit (Advisory) %RPD	Liquid	02/09/04		

Parameter	Units	Lab Sample IDs		
		GZAQC-3	GZAQC-4	GZAQC-5
Purgeable Halocarbons (8021)				
Bromodichloromethane	ug/l	20	70-130 %	<30 %
Bromoform	ug/l	20	70-130 %	<30 %
Bromomethane (Methyl bromide)	ug/l	20	70-130 %	<30 %
Carbon tetrachloride	ug/l	20	70-130 %	<30 %
Chlorobenzene	ug/l	20	69-135 %	<30 %
Chloroethane	ug/l	20	70-130 %	<30 %
Chloroform	ug/l	20	70-130 %	<30 %
Chloromethane	ug/l	20	70-130 %	<30 %
Dibromochloromethane	ug/l	20	70-130 %	<30 %
1,2-Dichlorobenzene	ug/l	20	70-130 %	<30 %
1,3-Dichlorobenzene	ug/l	20	70-130 %	<30 %
1,4-Dichlorobenzene	ug/l	20	70-130 %	<30 %
Dichlorodifluoromethane	ug/l	20	70-130 %	<30 %
1,1-Dichloroethane	ug/l	20	70-130 %	<30 %
1,2-Dichloroethane	ug/l	20	70-130 %	<30 %
1,1-Dichloroethene	ug/l	20	56-146 %	<30 %
cis-1,2-Dichloroethylene	ug/l	20	70-130 %	<30 %
trans-1,2-Dichloroethene	ug/l	20	70-130 %	<30 %
1,2-Dichloropropane	ug/l	20	70-130 %	<30 %
cis-1,3-Dichloropropene	ug/l	20	70-130 %	<30 %
trans-1,3-Dichloropropene	ug/l	20	70-130 %	<30 %
Methylene chloride				
(Dichloromethane)	ug/l	20	70-130 %	<30 %
1,1,2,2-Tetrachloroethane	ug/l	20	70-130 %	<30 %
Tetrachloroethene	ug/l	20	70-130 %	<30 %
1,1,1-Trichloroethane	ug/l	20	70-130 %	<30 %
1,1,2-Trichloroethane	ug/l	20	70-130 %	<30 %
Trichloroethene	ug/l	20	69-143 %	<30 %
Trichlorofluoromethane	ug/l	20	70-130 %	<30 %

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-3	Spike Amount Added, LCS/LCSD	Liquid	02/09/04		
GZAQC-4	LCS Accuracy Control Limit (%R)	Liquid	02/09/04		
GZAQC-5	LCS Precision Control Limit (Advisory) %RPD	Liquid	02/09/04		
Parameter	Units	Lab Sample IDs			
		GZAQC-3	GZAQC-4	GZAQC-5	

Purgeable Halocarbons (8021)					
Vinyl chloride	ug/l	20	70-130 %	<30 %	
2-Chloroethylvinyl ether	ug/l	20	70-130 %	<30 %	
Surrogate-1,4-Dichlorobutane	%		56-110 %		

Analytical Data Report

Lab Sample ID	Description		Matrix	Date Received	Date Sampled	SDG#
GZAQC-6	Reporting Limit (RL)		Solid	02/09/04		
GZAQC-7	Method Detection Limit (MDL)		Solid	02/09/04		
Parameter	Units	Lab Sample IDs				
		GZAQC-6	GZAQC-7			
Purgeable Halocarbons (8260)						
Bromodichloromethane	ug/kg dw	5.0	0.77			
Bromoform	ug/kg dw	5.0	0.96			
Bromomethane (Methyl bromide)	ug/kg dw	10	0.48			
Carbon tetrachloride	ug/kg dw	5.0	0.70			
Chlorobenzene	ug/kg dw	5.0	0.77			
Chloroethane	ug/kg dw	10	0.73			
2-Chloroethylvinyl ether	ug/kg dw	50	13			
Chloroform	ug/kg dw	5.0	0.50			
Chloromethane	ug/kg dw	10	0.70			
Dibromochloromethane	ug/kg dw	5.0	0.72			
1,2-Dichlorobenzene	ug/kg dw	5.0	0.63			
1,3-Dichlorobenzene	ug/kg dw	5.0	0.82			
1,4-Dichlorobenzene	ug/kg dw	5.0	0.89			
Dichlorodifluoromethane	ug/kg dw	5.0	0.75			
1,1-Dichloroethane	ug/kg dw	5.0	0.52			
1,2-Dichloroethane	ug/kg dw	5.0	0.65			
1,1-Dichloroethene	ug/kg dw	5.0	0.50			
cis-1,2-Dichloroethylene	ug/kg dw	5.0	0.57			
trans-1,2-Dichloroethene	ug/kg dw	5.0	0.45			
1,2-Dichloropropane	ug/kg dw	5.0	0.60			
cis-1,3-Dichloropropene	ug/kg dw	5.0	0.90			
trans-1,3-Dichloropropene	ug/kg dw	5.0	0.80			
Methylene chloride						
(Dichloromethane)	ug/kg dw	5.0	0.67			
1,1,2,2-Tetrachloroethane	ug/kg dw	5.0	0.89			
Tetrachloroethene	ug/kg dw	5.0	0.58			
1,1,1-Trichloroethane	ug/kg dw	5.0	0.87			
1,1,2-Trichloroethane	ug/kg dw	5.0	1.0			
Trichloroethene	ug/kg dw	5.0	0.65			
Trichlorofluoromethane	ug/kg dw	5.0	0.72			

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-6	Reporting Limit (RL)	Solid	02/09/04		
GZAQC-7	Method Detection Limit (MDL)	Solid	02/09/04		
Parameter	Units	Lab Sample IDs			
		GZAQC-6	GZAQC-7		
Purgeable Halocarbons (8260)					
Vinyl chloride	ug/kg dw	10	0.59		
Dibromomethane	ug/kg dw	5.0	0.71		
Bromobenzene	ug/kg dw	5.0	0.88		
1,1,1,2-Tetrachloroethane	ug/kg dw	5.0	0.81		
1,2,3-Trichloropropane	ug/kg dw	5.0	1.3		

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Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-8	Spike Amount Added, LCS/LCSD	Solid	02/09/04		
GZAQC-9	LCS Accuracy Control Limit (%R)	Solid	02/09/04		
GZAQC-10	LCS Precision Control Limit (Advisory) %RPD	Solid	02/09/04		

Parameter	Units	Lab Sample IDs		
		GZAQC-8	GZAQC-9	GZAQC-10

Purgeable Halocarbons (8260)

Bromodichloromethane	ug/kg dw	50	74-111 %	<50 %
Bromoform	ug/kg dw	50	72-125 %	<50 %
Bromomethane (Methyl bromide)	ug/kg dw	50	56-161 %	<100 %
Carbon tetrachloride	ug/kg dw	50	44-139 %	<50 %
Chlorobenzene	ug/kg dw	50	83-107 %	<50 %
Chloroethane	ug/kg dw	50	73-147 %	<100 %
2-Chloroethylvinyl ether	ug/kg dw	50	70-130 %	<100 %
Chloroform	ug/kg dw	50	80-111 %	<50 %
Chloromethane	ug/kg dw	50	49-153 %	<100 %
Dibromochloromethane	ug/kg dw	50	80-117 %	<50 %
1,2-Dichlorobenzene	ug/kg dw	50	82-109 %	<50 %
1,3-Dichlorobenzene	ug/kg dw	50	83-107 %	<50 %
1,4-Dichlorobenzene	ug/kg dw	50	84-107 %	<50 %
Dichlorodifluoromethane	ug/kg dw	50	43-170 %	<100 %
1,1-Dichloroethane	ug/kg dw	50	76-114 %	<50 %
1,2-Dichloroethane	ug/kg dw	50	64-115 %	<50 %
1,1-Dichloroethene	ug/kg dw	50	57-115 %	<50 %
cis-1,2-Dichloroethylene	ug/kg dw	50	76-115 %	<50 %
trans-1,2-Dichloroethene	ug/kg dw	50	68-122 %	<50 %
1,2-Dichloropropane	ug/kg dw	50	79-108 %	<50 %
cis-1,3-Dichloropropene	ug/kg dw	50	72-109 %	<50 %
trans-1,3-Dichloropropene	ug/kg dw	50	66-119 %	<50 %
Methylene chloride				
(Dichloromethane)	ug/kg dw	50	68-121 %	<50 %
1,1,2,2-Tetrachloroethane	ug/kg dw	50	70-123 %	<50 %
Tetrachloroethene	ug/kg dw	50	59-119 %	<50 %
1,1,1-Trichloroethane	ug/kg dw	50	70-110 %	<50 %
1,1,2-Trichloroethane	ug/kg dw	50	73-115 %	<50 %
Trichloroethene	ug/kg dw	50	66-114 %	<50 %

Analytical Data Report

Lab Sample ID	Description	Matrix	Date Received	Date Sampled	SDG#
GZAQC-8	Spike Amount Added, LCS/LCSD	Solid	02/09/04		
GZAQC-9	LCS Accuracy Control Limit (%R)	Solid	02/09/04		
GZAQC-10	LCS Precision Control Limit (Advisory) %RPD	Solid	02/09/04		

Parameter	Units	Lab Sample IDs		
		GZAQC-8	GZAQC-9	GZAQC-10

Purgeable Halocarbons (8260)				
Trichlorofluoromethane	ug/kg dw	50	75-136 %	<100 %
Vinyl chloride	ug/kg dw	50	74-145 %	<100 %
Dibromomethane	ug/kg dw	50	71-115 %	<50 %
Bromobenzene	ug/kg dw	50	79-112 %	<50 %
1,1,1,2-Tetrachloroethane	ug/kg dw	50	81-113 %	<50 %
1,2,3-Trichloropropane	ug/kg dw	50	33-91 %	<50 %
Surrogate -				
Dibromofluoromethane *	%		61-125 %	
Surrogate - Toluene-d8 *	%		80-122 %	
Surrogate -				
4-Bromofluorobenzene *	%		67-124 %	

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These test results meet all the requirements of NELAC. Any questions regarding this test report should be directed to the STL Project Manager who signed this test.

Methods: EPA SW-846 Update III

Methods: EPA 40 CFR Part 136

Methods: EPA 40 CFR Part 141

Boron, Silica, and Total Recoverable Phenolics analyses were performed by:

STL Savannah
5102 LaRoche Avenue
Savannah, GA 31404

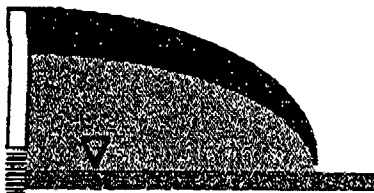
*NA Not applicable.

D Detection.

APPENDIX E

SUMMARY OF SURFACE WATER FIELD SCREENING RESULTS

JFA Geological & Environmental Scientists, P.S.C.



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GZA-SGO Guanajibo River Sampling March 16, 2004

Sample I.D.	Depth to Bottom (in)	Sampling Depth (in)	Time (24 hr)	Sampling Device	Sample Container
GZA-SW-1	< 12.0	n/a	1010	Beaker glass	40ml vial w/TFE
GZA-SW-1 Dup	< 12.0	n/a	1015	"	"
GZA-SD-1	< 12.0	5.5	1030	SS core liner	125ml amber glass
GZA-SD-1 Dup	< 12.0	5.0	1040	"	"
GZA-SW-2	< 12.0	n/a	1130	Beaker glass	40ml vial w/TFE
GZA-SD-2	< 12.0	4.5	1145	SS core liner	125ml amber glass
GZA-SW-3	16.5	n/a	1235	Beaker glass	40ml vial w/TFE
GZA-SD-3	< 12.0	4.0	1245	SS core liner	125ml amber glass
GZA-SW-4	18.0	n/a	1305	Beaker glass	40ml vial w/TFE
GZA-SD-4	< 12.0	4.0	1315	SS core liner	125ml amber glass

a- Depth to Bottom : depth from surface water to bottom of river. b- Sampling Depth: Depth below bottom (sediment). c- SS : stainless steel

Surface Water Physical Parameters

Sample I.D.	pH (standard units)	Conductivity (ms/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)
GZA-SW-1	6.51	0.462	27.5	10.21
GZA-SW-2	6.85	0.467	26.9	11.14
GZA-SW-3	5.98	0.478	27.3	8.50
GZA-SW-4	6.72	0.490	27.4	9.80

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